

REMARKS

This response follows an Office Action of November 2, 2001, rejecting claims 1-7. This is a second action non-final rejection.

The claims stand rejected as unpatentable over Barassi et al. '533. Specifically, claims 1 and 3-5 stand rejected as unpatentable over this reference and the admitted prior art set forth on page 4, middle paragraph. Dependent claims 2, 6, and 7 stand rejected over Barassi in view of two different secondary references.

Barassi is a newly cited reference. The Examiner relies on the reference for the teaching of a radial pneumatic tire having the fundamental tire architecture of carcass, sidewall, bead cores and a belt reinforcing layer. The Examiner describes the belt reinforcing layer of the reference to have an inner most cord layer of metallic cords, a middle cord layer of textile cords and an outermost layer of metallic cords. The Examiner recognizes that the reference does not teach a particular tread pattern and thus does not teach any relationship between the axial extent of the circumferential grooves and that of the outermost cord layer. The Examiner relies on the description of a conventional tire on page 4 of the specification and thus holds that the inclusion of conventional grooves in the tread portion is well known. The Examiner's holding on obviousness thus is one in which it is contended that the use of circumferential grooves would have been obvious in the tire of Barassi et al.

The Applicant agrees with the Examiner that the use of a circumferential groove in a generalized tread pattern would be within the purview of obviousness given Barassi's disclosure of use in a radial tire. However, there remain two distinctly different criteria set forth in claim 1,

which are neither taught nor remotely suggested by that combination. Thus, the rejection is respectfully traversed.

First, claim 1 as presented to the Examiner required that “the outermost cord layer has a width extending toward an end of the tread portion over an outermost groove edge of the outermost circumferential groove in the widthwise direction of the tread pattern”.

Assuming that the Examiner is correct on the issue of the use of a circumferential groove such as element 9 in Figure 1, the artisan would not ignore that the underlying belt arrangement is different from that of Barassi. Thus, to the extent that Applicant’s statement of the prior art reflects the presence of circumferential grooves, which it does, it also suggest a materially different belt layer construction. Thus, the artisan would be faced with the proposition of Barassi showing a construction in which the outermost belt layer is distinctly different from that of layers 6 in Figure 1. The issue would thus remain whether the tread pattern itself is compatible with the belt construction. As Applicant points out, the two aspects of the tire, that is the tread design and the belt construction are interrelated to each other and cannot be separated and independently considered. Consequently, the relationship between the location of the circumferential groove would be considered as a part of the overall tread structure itself as well as the underlying belt configuration. Consequently, it is just as expected that given Figure 1, the location of the laterally most circumferential groove could be positioned outside that of the top most belt layer. That is consistent with Figure 1. While the ‘533 reference does indicated that the uppermost layer 7 extends to the entire part of the tread which comes into contact with the ground both

during straight running and cornering, such does not exclude the presence of other grooves outside the ground contact width, which are used for purposes of drainage and the like.

Consequently, the Examiner's holding that Barassi would have the end portions of the outermost cord layer extend beyond the axial extent of the circumferential grooves is not only speculation, but directly contrary to the combined teachings which he relies upon.

Secondly, and just as importantly, the Examiner's characterization of Barassi with respect to showing the belt reinforcing structure apparently ignores the presence of a 4 layer structure as opposed to Applicant's 3 layer structure. Moreover, Barassi, as the Examiner clearly recognizes shows that at least the middle cord layer 5 comprises textile cords. Indeed, it would appear that in Barassi not only is layer 5 one of textile cords, but also layers 4 and 6 (see col. 2, lines 39-41). The only layer utilizing metallic cords is layer 7. Applicant has amended claim 1 to require that all of the cord layers contain steel cords. Applicant's 3 layer structure represents a materially different belt construction then that of Barassi. Barassi by definition utilizes a breaker having a combination of metallic and textile cords (see col. 1, lines 65-74). Barassi prefers specifically that only the outermost, that is the radially outermost cord layer be used with a metallic fabric (see col. 2, lines 23-28). Barassi provides no alternative or suggestion that the specific combination of textile cords with the radially outermost metallic layer could in anyway be modified. Consequently, it is believed that Applicant's all metallic structure defines in its belt construction one which is materially different from that of Barassi. The rejection in paragraph 2 is thus respectfully traversed.

Likewise, the rejection to claim 2, that to claim 6, and the final rejection to claim 7, does no more than attempt to compensate for the recognized deficiency of Barassi by adding prior art in a manner which is not commensured with the proper standard of obviousness.

For example, with respect to rejection to claim 6, the Examiner relies on Okamoto '828. The Examiner relies upon this reference for the teaching of a specific end cover rubber in the belt region. What the Examiner, however, does not reconcile is that Okamoto teaches and shows the provision of a circumferential groove, which is laterally outside the uppermost belt layer 3. This is consistent in all of the figures of that reference. Okamoto is then consistent with the prior art and inconsistent with Barassi. It stretches the concept of obviousness to conclude that the artisan having Figure 1 of this application and Okamoto '828 would focus solely on the end cover rubbers of Okamoto while ignoring the fundamental architecture of the belt. It is thus believed that the rejection to claim 6 represents nothing more than the piecemeal application of the prior art in a hindsight manner.

The same conclusion is mandated relative to the rejection to claim 7 relying on Imamura '652. The Examiner should note the belt construction in Figure 4 in which the radially outermost belt layer is in fact the narrowest of all the belt layers depicted.

Finally, the Applicant notes with interest, the Examiner's comments in paragraph 6. The Examiner contends that the circumferential grooves in Kohno "are nothing more than representative and ultimately do not suggest any relationship between the width of the outermost cord layer and the axial extent of the circumferential grooves". If that is the case, then the same conclusion must be true relative to Figure 1 of the prior art defined by the Applicant. If, as the

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Examiner thus tastily agrees, there must be some affirmative suggestion between the width of the outermost cord layer and the axial extent of the circumferential grooves, a concept Applicant endorses, than there is no positive suggestion in the prior art. At best, all there are are "representative" showings, which do not rise to the requisite level of suggestion or motivation required to satisfy a conclusion that prima facie obviousness exists.


Thus, given the comments herein when coupled with Applicant's claim amendments is respectfully contended that the claims in this case should now allowed.

Should the Examiner have any questions he is requested to contact the undersigned attorney of record at the local exchange listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

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APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

1. (Twice Amended) A pneumatic radial tire comprising; a radial carcass having at least one rubberized cord ply extending between a pair of bead cores embedded in a pair of bead portion and reinforcing a pair of sidewall portions and a tread portion, a belt reinforcing the tread portion at an outside of the carcass and comprised of three rubberized cord layers each containing steel cords therein, an innermost cord layer and a middle cord layer among these cord layers being a cross cord layer that cords of the layers are crossed with each other with respect to an equatorial plane of the tire, and one or more circumferential grooves provided in at least each side region of the tread portion, the cords of each of the innermost cord layer and the middle cord layer have an inclination angle of 10-25° with respect to the equatorial plane, and cords of an outermost cord layer have an inclination angle of 45-115° with respect to the equatorial plane as measured in the same direction as in the cords of the middle cord layer, and the outermost cord layer has a width extending toward an end of the tread portion over an outermost groove edge of an outermost circumferential groove in a widthwise direction of the tread portion.